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AGO ltr, 29 Apr 1980

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DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C. 20310

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IN REPLY REFER TO

AGAM-P (M) (15 Sep 67) FOR OT RD-670311

20 September 1967

SUBJECT: Operational Report - Lessons Learned, Headquarters,  
159th Engineer Group (Const)

TO: SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation by USACDC in accordance with paragraph 6f, AR 1-19 and by USCONARC in accordance with paragraph 6c and d, AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from Lessons Learned during current operations, and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*

KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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as

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DEPARTMENT OF THE ARMY  
HEADQUARTERS  
159TH ENGINEER GROUP (CONST)  
APO 96491

EGB-3

14 May 1967

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65) for  
Quarterly Period Ending 30 April 1967

THRU: Commanding General  
United States Army Engineer Command Vietnam (Prov)  
ATTN: AVCC-BC  
APO 96491

Commanding General  
United States Army, Vietnam  
ATTN: AVC-DH  
APO 96307

Commander in Chief  
United States Army, Pacific  
ATTN: GPOP-MH  
APO 96558

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR DA)  
Washington, D.C. 20310

Section 1, Significant Organization or Unit Activities:

1. Command:

a. This report covers the following headquarters and units with  
arrival and operational dates in the theater as indicated:

<u>UNIT</u>	<u>ARRIVAL</u>	<u>OPERATIONAL</u>
HHC 159th Engr Gp (Const)	30 Oct 65	30 Oct 65

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<u>UNIT</u>	<u>ARRIVAL</u>	<u>OPERATIONAL</u>
Advance Party 34th Engr Bn	22 Apr 67	-
46th Engr Bn (Const)	25 Sep 65	4 Oct 65
169th Engr Bn (Const)	30 May 66	10 Jun 66
62d Engr Bn (Const)	28 Jan 67	28 Jan 67
103d Engr Co (CS)	5 Feb 66	22 Feb 66
Co C, 577th Engr Bn (Const)	2 Aug 66	5 Aug 66
617th Engr Co (PB)	4 Nov 65	11 Nov 65
43d Engr Co (DT)	12 Sep 66	25 Sep 66
643d Engr Co (PL)(CS)	31 Oct 66	8 Jan 67
536th Engr Det (PC)	5 Feb 66	11 Mar 66
41st Engr Co (PC)	1 Feb 67	13 Feb 67
551st Engr Det (WD)	18 Jan 67	13 Feb 67
Co D, 92nd Engr Bn (Const)	21 Feb 67	25 Feb 67
143d Engr Det (CMP)	16 Mar 67	1 Apr 67

b. Mission: The mission of the 159th Engineer Group (Const) is to accomplish engineer construction and to provide combat support when required.

c. Area of Responsibility: At the start of the reporting period the boundaries of the 159th Engineer Group included the area between the Nha Be - Song Dong Nai Rivers and a line approximately 15 kilometers east of National Route 15 below Bien Hoa, plus the separate Saigon City Area and an enclave about Dong Tam near My Tho in the Mekong Delta. On 20 April 1967, this area was reduced to the three non-contiguous areas about Long Binh, Bien Hoa and Saigon, plus the three 10,000 meter grid squares which contain the Vung Tau peninsula. Responsibility for the USARV aviation facility at Long Thanh was retained by the 159th Engineer Group (Const)

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although this area is located within the 34th Engineer Group (Const) boundaries.

d. Assignment: The 159th Engineer Group is assigned directly to the US Army Engineer Command Vietnam (Provisional), (USAECV(P)). The 159th Engineer Group Headquarters is located at Long Binh. All battalions, separate companies and detachments are located in Long Binh except D Company, 46th Engineer Battalion (Const), the 536th Engineer Detachment (PC), and the quarry section of the 103d Engineer Company (CS) which are located at Vung Tau, and Company C/577th Engineer Battalion (Const) located at Dong Tam.

e. Movements, Attachments, and Detachments:

(1) Co D, 92nd Engr Bn (Const) was assigned to the 159th Engr Gp on 20 Feb 67.

(2) The 41st Engr Co (PC) was assigned to the 159th Engr Gp on 1 Feb 67.

(3) The 143d Engr Det (CMP) was attached to the 159th Engr Gp on 27 Mar 67.

(4) The 617th Engr Co (PB) and Co C, 577th Engr Bn were re-assigned to the 34th Engr Gp (Const) on 20 Apr 67.

(5) One platoon of the 643d Engr Co (PL)(CS) which was attached to the 45th Engr Gp on 5 Dec 66 has been further attached to the 84th Engr Bn (Const) at Qui Nhon.

f. Visitors and Awards:

(1) Visits: The following visitors were given an official briefing and tour of the 159th Engr Gp construction projects during the reporting period:

12 Feb 67: LTG William F. Cassidy, Chief of Engrs  
2 Mar 67: MG C. H. Dunn, J4 MACV  
3 Apr 67: LTG W. K. Wilson (Ret), OSD  
3 Apr 67: MG G. M. Minton (Ret), OSD  
3 Apr 67: Commodore A. O. Hunter, OSD  
3 Apr 67: GS-17 L. M. McBride, OCE  
17 Apr 67: COL J. S. Grygiel, DCO USAECV(P)  
19 Apr 67: IG R.R. Ploger, CG, USAECV(P)  
25 Apr 67: COL Young (USAF), OSD

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(2) Awards: The following individual awards were presented to members of the 159th Engineer Group during the reporting period:

<u>LEGION OF MERIT</u>	<u>BRONZE STAR</u>	<u>ACM</u>	<u>PURPLE HEART</u>
2	25	29	2

The Legion of Merit was presented to LTC Marvin Rees, CO, 169th Engr Bn (Const), and to SGM Hal Avery, SGM, 159th Engr Gp (Const), on their departure from Vietnam.

## 2. Personnel, Administration, Morale and Discipline:

Personnel: In March of 1967, the 159th Engineer Group began receiving replacements against a MTOE authorization rather than the former "Delta" series TOE authorizations. This change resulted in an overall gain in enlisted strengths and a loss in authorized officer strengths. The consolidated strength figures for the reporting period were as follows:

### a. 28 February 1967

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
Authorized:	159	32	3855	4046
Assigned:	166	27	3754	3947

### b. 31 March 1967

Authorized				
TOE:	159	32	3855	4046
MTOE:	148	30	4320	4498
Assigned:	159	28	3668	3855

### c. 30 April 1967

Authorized				
TOE:	152	31	3563	3746
MTOE:	141	29	4028	4198
Assigned:	150	28	3991	4169

The 159th Engr Gp employed an average of 1750 indigenous personnel for construction purposes. The overall assigned personnel strength of the Group has increased from approximately 97% to 110% of authorized TOE strength. As applied against the pending MTOE, Group strength is slightly

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above 100% strength. A system of assigning all intransits to the USARV Transient Detachment has resulted in more accurate and realistic strength accounting. Shortages exist primarily in grade E-6 in MOS 51H40 (Construction Foreman) and in officer grade of Captain (10% shortage) and Lieutenant (5% shortage).

Administration: The Group prepares 41 recurring personnel and administrative reports to be submitted to higher headquarters: 4 Quarterly, 33 Monthly, 2 Weekly and 2 Daily. A reports roster and suspense control system are maintained to insure timely receipt and submission. Throughout the reporting period, the Group has continued to receive a large volume of "one-time" reports, which have posed a heavy drain of effort on all staff sections. A rigid internal reports control system has been initiated with the Group Headquarters in an effort to pool incoming reports data to preclude the establishment of additional reports requirements of Group level. A continuing program of review and updating of Group Regulations has been initiated to insure timely and accurate implementation of higher headquarters directives.

Morale: Morale with the Group has remained high throughout the reporting period. Positive command emphasis has been placed on providing decent and safe working conditions and adequate living space. Work days are long and arduous. However, the sense of accomplishment gained through continuous project completions has instilled the men of this command with a sense of pride and accomplishment which has produced a general spirit of energetic participation and a high degree of morale.

The out-of-country R&R program remains extremely popular and averages 10 quotas per company per month with a fill rate of approximately 90-95%. The in-country R&R program to Vung Tau averages 1 quota per company per month and at its present rate meets only minimum needs.

The Special Leave program which authorizes a free 30 day leave anywhere in the Free World for individuals who extend their normal tour for six months has been an effective incentive for retention of personnel. During this period approximately 150 individuals have extended their tours. The program continues to average 40 - 60 extensions per month and is considered extremely beneficial due to the training and experience that is retained in Vietnam for the additional period.

Recreational facilities and activities during off-duty hours have been stressed. Intra-Group sports programs, movies, floor shows, and bands are encouraged and a continuing program of movies or floor shows and bands have been available at various Group Theatres nightly. Athletic equipment, small games and musical instruments in limited but adequate amounts are available for use throughout the Group. These activities

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have not only provided a tool for the furtherance of morale, but have served to materially reduce the possibility of venereal disease exposure and incident rates. An excellent paperback library has been available at the Orderly Room of Headquarters Co, 159th Engineer Group since February.

Discipline: Disciplinary problems have remained minimal during the period. The long work day, availability of unit recreational facilities and close attention to personal problems at unit level have served to keep disciplinary problems to a minimum. Continuing stress is placed on the use of Article 15 punishment in lieu of Courts Martial action in most incidents involving minor offenses.

### 3. Intelligence and Counterintelligence:

Intelligence: The combat intelligence functions of the Group have been negligible due to the primary emphasis on construction in relatively secure areas. Reconnaissance activities in support of II Field Force Vietnam (IIFV) were limited to Route 15 and roads in the Long Binh area.

Within the definition of engineer intelligence the Group has been a primary source of information on construction estimates, local engineering material resources, and real estate evaluation from a construction viewpoint. Surveys for laterite, rock and water have been made in new areas, as well as analyses for development of roads, bridging, airfields, and wells.

Intelligence information on the enemy is obtained on a daily basis from the morning briefing conducted at Hqs IIFV. Pertinent information is then forwarded to all units. Additional intelligence is obtained through the Security Section, Long Binh Post. All defense and physical security plans of 159th Engineer Group units in the Long Binh Post Area are controlled directly by the CO, 159th Engineer Group and are coordinated with the Long Binh Post Hqs.

Counterintelligence: There have been no active counterintelligence assignments by the 159th Engineer Group other than routine reporting of significant or unusual activities.

### 4. Operations and Training:

a. Combat Support Operations: During this period, the 159th Engr Gp participation in combat support activities decreased. Elements of C/169th Engr Bn (Const) repaired a bridge site ford on Route 15 to support IIFV operations on 16 February 1967. The 617th Engr Co (PB) installed a 120 foot DS Bailey Bridge during period 10-17 March 1967, and a 70 foot DS Bailey Bridge during the period 17-23 March 1967; both

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in support of OPERATION ENTERPRISE. The 617th Engr Co (PB) also hauled and assisted in the erection of a 430 foot DD Bailey Bridge in the 1st Infantry Division T10R. Numerous pieces of engineer equipment were provided from the 159th Engr Gp for various combat support missions: to include the use of 159th Engr Gp ROME FLOWS on OPERATION JUNCTION CITY, and the use of cranes and compaction equipment to complement the construction capability of other Combat Engineer units. The 617th Engr Co (PB) provides continual tactical bridging support on an on-call basis.

b. Construction Operations:

(1) General: During the period the primary work effort of the 159th Engr Gp has been the development of the Long Binh complex, which will serve as the future headquarters for USARV and 1st Logistical Command. The operational facilities and cantonment areas required by the move of these major units from the Saigon area have necessitated a heavy and continuously expanding program of priority construction. Close coordination and cooperation with the civilian construction contractor RMK-BRJ Inc, has been essential to permit both troop and contract construction to keep pace with the rapid development of Long Binh.

In other areas of the Group, the arrival of new major tactical units caused the commitment of construction forces to the Long Thanh (Bear Cat) area and to Dong Tam in the Delta region. The completed movement of the 62nd Engr Bn (Const) from Phan Rang to Long Binh was a definite asset in accelerating work on the Long Binh area. The employment of the 41st Engr Co (PC) with its specialized personnel and equipment also contributed measurably in starting work on high priority port projects.

This reporting period was one of generally good construction conditions due to the dry seasonal climate. This weather permitted extensive horizontal work effort and the period has been one of maximum production for all types of equipment. Dust has been the only natural delaying factor. Extensive dust palliation work prevented dust becoming a significant problem.

Engineer projects are initiated by either an Engineer Command Directive or a 159th Engineer Group Directive which define the scope of work, funding source, expenditure limit, and the required beneficial occupancy and estimated completion dates. Also provided are any additional instructions relative to procurement, siting, and necessary coordination. When possible, the Group provides further definition as to details of the construction. Each directive is reviewed by the Group Engineering Section (discussed later in this report) and by the Operations Section to coordinate construction methods, equipment distributions and scheduling.

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(2) Projects and related Activities:

(a) Projects completed this period in Long Binh.

1 Construction of the Guard Towers for the Long Binh Ammo Storage Depot was completed on 10 March 1967. The project started on 10 February 1967 and consisted of constructing 29 Guard towers, located on the perimeter of the ammo dump.

2 Construction of the HoNai Class IV Storage Area was completed on 25 March 1967. The project started on 31 July 1966. Over 250,000 CY of laterite were used as fill on this project with over 95,000 US manhours expended. This project entailed the construction of approximately 5 miles of interior road network and 350,000 SY of hard-stand area.

3 Repair work on the Cogido Barge Site included replacing damaged mooring dolphins, piling and fender systems, and a walkway. This project was completed on 21 March 1967.

4 Well, Water Processing, Storage, and Fill Points in the Long Binh Area have been constructed by various units of the 159th Engineer Group (Const). Wells at the following locations in Long Binh have been completed: 24th Evap Hosp, 169th Engr Bn (Const), HEMCO and 48th TC Group. Each construction battalion in the 159th Engr Gp has its own team of specialists to erect well facilities. Each well is provided with truck fill stand, elevated water tank for storage, pump, and in-line chlorinator.

5 The construction of nurses quarters at the 93d Evacuation Hospital was initiated on 25 October 1966, and completed on 27 March 1967. A total of 10,920 US manhours were expended. The building, for 56 nurses, contains a lounge, beauty parlor, water borne sewage system, and potable water plumbing.

6 General Officers Quarters (one each) at IIFV was started on 15 February 1967 and completed on 3 April 67. This building is air-conditioned, and has water borne sewage system and plumbing.

7. Ammo Supply Depot all weather perimeter road was started on 19 January 1967 and is 7.1 miles in length. Over 10,000 US manhours, as well as 5,000 equipment hours, went into this project. It was completed on 19 April 1967.

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8 PX Storage Depot, Long Binh, was started on 10 February 1967 and was completed 30 April 1967. This project entailed 20,000 SY of hardstand with an internal road net, 2,000 SY of parking hardstand, and 4,800 LF of temporary security fence (concertina).

9 TOC Expansion at IIFV Headquarters was started on 27 February 1967 and was completed on 30 April 1967. The project consisted of erecting two round wall quonset huts (20' x 60') in line with the existing north and south wings of the existing TOC at IIFV. Each building is raised on an 18" high reinforced concrete wall, is air-conditioned, and mapboards were included as part of each building.

10 DCG's Office - Headquarters Expansion at IIFV Headquarters was started on 3 March 1967 and was completed on 30 April 1967. This project included the addition of 1,056 SF in the northeast and southwest section of the headquarters. Both new wings are air-conditioned and each is one half of a straight walled quonset.

11 The Dial Central Office at Long Binh was started on 7 January 1967 and BOD was 5 April 1967. This project consisted of the construction of a 40' x 132' facility, which is completely air-conditioned, and includes a 72' long underground concrete cable vault.

12 The 500 Man Mallard Cantonment Area was completed on 1 March 1967. This project entailed approximately 12,000 SY of hardstand for buildings, motor pools and storage. Two 250 man mess halls, two Hqs bldgs, 16 showers, 16 latrines, and about 2 km of tank access road were completed.

13 The PX Storage Warehouse at IIFV was started on 10 January 1967 and was completed on 28 February 1967. The warehouse consisted of a 40' x 100' jumbo rounded quonset on a 4 foot high reinforced concrete foundation wall.

14 The VIP Helipad at IIFV was started on 8 March 1967 and completed on 27 March 1967. It consisted of preparation and asphalt surfacing of a 200' x 210' helipad.

(b) Projects completed this period in Saigon.

1 The Saigon TSN POL Facility, Phase I, was started on 12 January 1967 and completed on 28 March 1967. Over 35,000 US manhours were expended on this phase of the project which consisted of constructing two 6" pipelines from My An (XS 885951) a distance of two

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and one half miles to Tan Son Nhut Air Base. Also included in this phase was a pumping station at My An.

2 Ramp Storage Taxiway - Open Storage at Tan Son Nhut was completed 7 March 1967. The project consisting of a taxiway (75' x 620'), a loading & storage area (390' x 620'), and related drainage facilities. Laterite, rock base course, DBST, and PSP were used to prepare the various areas.

3 Reinforcement of the LST Loading Ramp at Newport was completed 20 April 1967. This priority project to permit loading of tanks consisted of reinforcing an existing floating ramp with additional Navy cubes and constructing a 60 foot Double - Single Bailey Bridge to span the gap from the dock to the reinforced float.

(c) Vung Tau

1 Port Facilities, Causeway phase, started on 12 September 1966 and was completed on 30 April 1967. Over 61,570 US manhours, and 33,300 equipment hours went into this project as well as 9,881 CY of rock, 40,326 CY of sand and 66,550 CY of quarry fill material. The project consisted of constructing a 1205' x 40' select fill causeway extending to the new DeLong Pier.

2 A Barge Loading Facility consisting of an aggregate barge site with mooring and breasting dolphins was completed on 1 April 1967. A fire of unknown origin damaged the barge site on 2 April 1967. Repair work was started immediately and the facility was restored on 30 April 1967.

3 The main airfield rehabilitation project at Vung Tau started on 29 August 1966 and consisted of constructing a DBST runway, 4500' x 80'. The project was completed on 6 February 1967 with a total of over 86,000 US manhours, 33,000 VN manhours, and 32,000 equipment hours.

(d) Projects under construction in Long Binh:

1 Asphalt paving in the Long Binh Area this period totalled over 6.5 miles of roads.

2 The Ammo Storage Depot project was started on 1 November 1965 with a scope of 250,000 SY of open storage area. As of 30 April 1967, all 225 out of 225 pads required had been constructed. 21 pads were destroyed by VC sabotage in February 1967 and three of these have been repaired. Work continues on the remaining damaged pads. The

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complete depot road network system has been completed, and final drainage facilities are near completion. Clearing of the entire depot is nearly completed, with over 2,700 acres now cleared using ROME plows and employing the chain-drag clearing technique.

3 24th Evacuation Hospital: This project started on 6 July 1966 and to date the following has been completed: 1 Surgery Complex (4 suites), 1 500 man T-shaped Mess Hall, 1 Supply Building, 6 Post-Op Bldgs, 2 Pre-Op Bldgs, 10 Wards, 1 Dental Building, 1 X-Ray-Lab Building, 6 Intensive Care Wards, 1 Heliport facility, 4 Nurses Quarters w/water borne sewage, 1 Utility-Day Room, a Laundry Building, a Supply Building, a Chapel, a Classroom, 2 A&D Buildings, a Exchange Barber Shop and covered side walks.

4 The Class I & IV storage yard construction started on 20 October 1965. To date, over 65,000 US manhours have been expended on this project. This project entailed improving drainage and rehabilitation of a large hardstand area. Over 2500' of culvert has been placed in this area.

5 The 90th Replacement Area - Water Distribution System project consists of constructing a 126,000 gallon steel water tank for storage, a water well fill point, and a limited water distribution system.

6 The Air Defense Artillery Sites construction consists of one firing site and a Headquarters and Service Battery Cantonment.

7 Support for the IIFV Headquarters Complex has continued with construction of new support facilities including Aviation Maintenance buildings, warehouses, roads, and drainage structures.

8 Minimum Essential Requirements (MER) for incoming units has been a continuous requirement during the reporting period. This priority construction provides latrines, showers, roads, and building pads for new units. MER has been furnished for an estimated total of 4,000 troops in Long Binh this period. The majority of incoming units to Long Binh erect the ADAMS hutment for billets by self-help under the supervision of the 159th Engineer Group.

9 Well, Water Processing, Storage and Fill Points are now being developed at six locations. Each well has an elevated storage tank, pump house with chlorinator, and truck fill stand.

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Existing and scheduled wells for Long Binh have a combined capacity of over 2.8 million gallons per day.

(e) Projects Continued This Period at Other Locations:

1 7,500 Man Cantonment at Dong Tam. From the period 26 January 1967 to 20 April 1967, the following construction was accomplished at this Brigade Base Camp in the Mekong Delta. The responsibility for construction at this location was transferred to the 34th Engineer Group (Const) on 20 April 1967.

Combat Support: Removed a 186 foot Type I three span Eiffel bridge, modified the Eiffel piers and installed a 190 DS Bailey across the gap. Reinforced one modified Eiffel pier by placing a 10 x 20 foot concrete footer around the pier.

Vertical Construction Completed:

Mess Halls	12,240 SF
Admin Bldgs	10,640 SF
Troop Billets	4,320 SF
Operations Bldg	400 SF

Vertical Construction in Progress:

Nurses Quarters	1,520 SF
Medical Ward	2,000 SF
Surgical Quonset	3,280 SF
Mess Hall	2,000 SF
Prefab Billets	34,560 SF (self-help)

Horizontal Construction:

Roads, graded and compacted	25,000 SY
Roads, stabilized (sand/cement)	13,100 SY
Airfields, graded and compacted	21,000 SY

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Horizontal Construction:

Airfields, stabilized	2,670 CY
Fill Hauled and placed	76,000 CY

Other: Conducted two engineer reconnaissances to determine access routes and local engineering data, developed methods and standards for soil stabilization at Dong Tam, established prefab shop for all construction purposes, and managed construction materials supply for all units.

2 15,000 Man Cantonment at Long Thanh (Bearcat): Construction of this Main Base Camp for the 9th Infantry Division continued this period until 20 April 1967 when the 34th Engineer Group (Const) was given responsibility for the Long Thanh Area. The following was accomplished this period by the 159th Engineer Group:

Horizontal Construction:

Access Roads	14,400 feet
Interior Roads	14,000 feet
Haul Roads	5,600 feet
Drainage Ditch	9,600 feet
Culverts	1,910 feet total
Acres Cleared	432
Laterite Fill Placed	294,950 CY
Open Storage	124,000 SF
DBST - Helipad (Double Bituminous Surface Treatment)	200,000 SF
SBST - Helipad (Single Bituminous Surface Treatment)	280,000 SF
M8A1 Matting	11,232 SF

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Horizontal Construction:

Helipad Hardstand 477,000 SF

Vertical Construction:

Mess Halls	23 each
Quonsets	4 each
Latrines	17 each
Showers	13 each
Water Towers	9 each
Water Well Facilities	3 each complete

Other: Provided Base Development Office for coordination of entire Base Camp Construction. Managed self-help construction to include issue of materials, technical assistance, and equipment support to all tenant units.

3 The POL Tank Farm at Vung Tau is near completion. At the completion and acceptance of nine 10MBBL steel tanks (of 10) and four 1 MBBL steel tanks with a truck fill stand, fire fighting facility and 4-8" lines to the POL jetty.

4 The Communications Center construction at Bien Hoa was not completed due to material shortages and changes to the original plans. All problems have been resolved and completion is expected next period.

5 Construction on the Open Storage project at Vung Tau was again initiated and work has progressed to complete approximately 18,000 SY of M8A1 hardstand to date.

(f) Projects Started This Period in Long Binh

1 The POL Tank Farm was started on 3 May 1967. Since that date 12,610 cubic yards of laterite have been hauled into and 45,360 cubic yards of waste has been hauled out of the construction area. Three 10 MBBL tanks are under construction.

2 Heliport facilities at Long Binh started on 17 March 1967. To date 766,940 SF of brush and jungle have been cleared.

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127,930 cubic yards of waste has been removed and 35,370 cubic yards of laterite have been brought in as fill. This project consists of 77 M8A1 parking pads for HU-1 Helicopters, 12 M8A1 pads for CH-47, two paved taxi ways, and a paved runway 300' x 60'.

3 The 7,500 Man 199th Infantry Brigade Cantonment was started on 28 February 1967. Two 500 man mess halls, and 30 concrete pads for 2-story barracks (20 x 96) and a Battalion Headquarters will be constructed in the initial phase which is 22 percent complete this period. Technical supervision is being supplied for the erection of 2-story barracks by self-help. Roads, drainage, latrines, showers, and urinals are also being furnished as MER.

4 The USARV Airfield at Long Thanh was started on 1 April. So far 64,000 SY of area has been cleared and 20,000 cubic yards of waste has been stripped from the area. This project consists of the construction of a runway (3,500' x 80') to be constructed with a 4" AC course over a crushed rock base course. A taxiway of 1,850 SY will connect the runway with parking aprons of 75,000 SY area. The final design is for C130 aircraft.

5 Construction of 500 Man Mess Halls was started in February 1967. To date, six mess halls have been completed and five are under construction. These mess halls are for various Long Binh units.

6 The Property Disposal Office (PDO) Yard construction was started 11 February 1967. The project, which was initially limited to clearing of 20 acres and providing access roads, was expanded to the total scope of 95 acres including 28,000 SY hardstand area. This project is near completion.

7 The Retail Fuel Truck Park construction was started 15 February 1967. The project consists of approximately 66,000 SY laterite hardstand with a complete all weather road network.

8 The Long Binh Post Amphitheater was started at the request of the Post CO to provide a suitable gathering place for Easter Sunrise Services. Constructed on a natural hillside, the earthwork theater has a capacity of over 5,000.

9 The Honai Class II and IV Depot Expansion was started 30 March 1967. This work enlarges the recently completed depot by providing an additional 100,000 SY of penepime laterite hardstand with access roads and drainage provisions. Work is approximately 15 percent complete.

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10 The Long Binh Hold Baggage Warehouse, a 40' x 100' prefab metal structure, was started on 3 April 1967 and is 8 percent complete at the end of this period.

11 Rehabilitation work on Provincial Route 317 on the South perimeter of Long Binh Post was initiated 10 March 1967. The total scope of work is to upgrade this former wagon trail to a DBST surface two lane highway. To date the road has been widened to 32 foot along its entire length and drainage structures have been installed.

12 General Officer Quarters: Construction was initiated at IIFV Headquarters on 28 March 1967 utilizing a 159th Engineer Group design, and at the USARV and 1st Log Command Headquarters Area on 25 April 1967 utilizing a civilian contractor design. One set of quarters has been completed at IIFV. The total requirement is for four quarters at IIFV, and eleven quarters at USARV and 1st Log Command Area.

(g) Projects Started This Period at Other Locations:

1 Construction of the Newport Facilities Security was started on 1 April 1967. The project consisted of the installation of the under water fencing, and the installation of the wharf security lighting. The lighting phase started on 1 April and was completed on 25 April 1967. Due to ships using the wharves there has been some delay in completion of the fencing. Deep Draft Wharf fence is 3,195 LF of which 2,595 have been completed. The total Shallow Draft Wharf fence is 1,985 LF of which 1,805 have been completed. A log boom is to be constructed to the north of the port facility to deflect floating debris.

2 The Free World Military Assistance Organization (FWMAO) Compound in Saigon was started 1 April 1967. The project consists of the construction of seven prefab Pascoe buildings, erection of a security fence, and material and equipment support to ARVN Engineers.

3 The causeway construction project along Hwy 15 between Vung Tau and Baria was initiated with the construction of a pile static load test facility on 23 March 1967. Preparations for testing were completed on 15 April 1967. The 2nd phase, to conduct a surcharge test, was started on 18 April 1967 with the hauling of blast rock to the test area. After tests have been conducted, work on two causeways will begin. One causeway will have an 80' bridge to allow for canal traffic.

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4 The General Officers Quarters for the CG, USAECV(P) at Bien Hoa was started on 1 April 1967. The design by a civilian design firm features a 2 bedroom home with screened patio and a utilities (air-conditioned) cupola above the pyramidal roof.

5 The PX and Civic Action Warehouse construction at Bien Hoa was initiated on 15 April 1967, and consists of two 40 x 50 foot warehouses. The project was 35 percent complete at the end of this period.

6 The Ammunition Storage Depot at Vung Tau was started after a change in scope from a previous directive. Under construction are 30 storage pads, related roads and drainage.

7 The Vung Tau Communications Center was started in February and later discontinued due to other higher priority projects. The Communication Center design calls for air-conditioning, a generator shed, fence and lighting.

(h) In addition to the major projects listed above, the following operations have been continuous in support of the construction program.

1 Prefabrication Operations by each Battalion carpentry shop to furnish latrines, showers, precast/prefab billots, mess halls, guard towers, water towers, and admin buildings.

2 Laterite pit production to provide select fill for all earthwork projects. Output this period totaled over 684,000 cubic yards.

3 Quarry production to provide blast and crushed rock for construction, concrete aggregate and asphalt aggregate. Total crushed rock this period was over 56,000 cubic yards.

4 Dust control using penoprime, diesel, MC-O, RC-1, Essoprime, bunker oil and water. Coverage totaled over 1,293,000 square yards of treated surface, not including water application.

5 Support to non-engineer units which include provision of equipment, technical assistance, materials and tools for authorized construction purposes.

6 Continuous road maintenance to include bridge and culvert repair when required for all roads in the Group area.

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7 Water purification by 159th Engr Gp water  
purification units.

8 Concrete Batch Plant operations to provide  
concrete or sand/cement mix in large quantities to engineer and self-  
help construction. The average weekly output is 500 cubic yards.

c. Engineering:

Working closely with the 159th Engineer Group Operations Section, the Engineering Section has played an important role in the Group Staff effort this period. Engineering design work has been significant this period due to the complexity and specialization required in such projects as airstrips, port facilities, and POL tank farms. The responsibility for preliminary and often times final design requires the Engineer Section to maintain and manage a large drafting and survey force. In addition, this section assists in the Base Development layout and planning for new cantonments, and monitors the progress of Base Development in the 159th Engineer Group Area. Other responsibilities of the Engineer Section include handling all Real Estate matters of the 159th Engineer Group, and the proper execution of Real Property Transfers of completed construction. With emphasis on quality control in the 159th Engr Gp construction, the soils and materials testing personnel of the engineering section have been active in soils testing, mix design and control for asphalt production, sand/cement and laterite stabilization, and use of other local construction materials. Engineering reconnaissance activities are also conducted.

5. Logistics

a. Logistics and Supply: Shortages of several items of construction materials continue to present a problem in the construction effort of units of this Group and for customers utilizing the self-help program.

Electrical supplies in any large quantity are practically non-existent in Vietnam at the present time. Notable shortages of electrical material, for which this unit has a large volume recurring demand, include 6 AWG and 12 AWG electrical cable, duplex receptacles, toggle switches, junction boxes, distribution panels, entrance weatherheads, conduit and circuit breakers. To conserve available material it has become necessary to re-evaluate the self-help program. Experience has shown that self-help units for the most part have not received sufficient quantities of materials requisitioned to adequately wire their unit areas. Since the self-help unit is completely dependent upon receiving only those materials requisitioned, if one or more items are not received the unit does not have the capability (supply source) to substitute another item

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that will do the job. This leads to the age-old "scrounging" method of getting the job done or else incomplete and in-adequate wiring of buildings. To overcome this problem, effort is being made by the construction battalions of this headquarters to survey the electrical requirements for each unit, requisition the materials required for all units supported on a one-time basis, and provide technical assistance by means of electrical teams, once the electrical supplies are received, to install adequate electrical wiring.

Water tanks for mess halls and shower facilities continue to be in short supply. The use of empty napalm containers and the fabrication of tanks using steel plate have helped to ease the situation somewhat; however, at the present time there are 15 towers in place without proper tanks to complete the installation, and there are an estimated 30 mess halls utilizing 3,000 gallon collapsible tanks that should be replaced.

Asphalt soil binder (penepriime) became an item of critical ~~short~~ supply during this reporting period. Penepriime is used extensively in the Long Binh, Bear Cat, and Bien Hoa areas to provide dust control on roads and heliports. An average of approximately 800 drums per week was used during the height of the dry season. However, with the start of the monsoon season usage will decrease to approximately 300 drums per week.

The contract for rock purchased from Korea was cancelled in April 1967 after delivery of 25,000 cubic yards had been made. Problems, as reported on the last report, of gradation control, shipping schedules, port facilities, equipment availability, and difficulties with Vietnamese labor authorities left no alternative but to cancel the contract.

The use of transportation tugs to move rock barges loaded with rock from the Vung Tau quarry to Dong Tam and Long Binh has been only partially successful. The primary problem has been not having tugs readily available to move barges when loaded. Since the initial obstacles were cleared, barge traffic has improved.

As construction in Vietnam becomes more refined, new difficulties have been encountered in the procurement of certain construction materials called for in the design of communications centers and other specialized structures. Materials such as formica, ceramic tile, vinyl tile, medicine cabinets, mirrors, cabinet hinges, gutters, and down spouts are not available in normal supply channels and no provisions are readily available for procuring these items on the local economy.

Materials for self-help customers for the construction of Minimum Essential Requirements (MER) - showers, latrines, and mess halls - continue to be provided by means of pre-fabrication in the construction battalions' carpenter shops. Other construction supplies are requisitioned on the Engineer Construction Materials Depot after obtaining approval from this headquarters. This has created a large number of customers being supported by the depot. This system has worked fairly

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well up to the present time since the materials requisitioned by the self-help unit were normally large bulk issues and the depot could support issues of this quantity. The status of construction of most self-help units at Long Binh has reached the point where construction materials required (with the exception of electrical supplies as discussed above) are of such minimum quantities (5 lbs of nails, 800 BF of 2 x 4 lumber, etc) that it is a burden on the depot to issue material in these quantities. This headquarters is studying a proposal of supporting self-help units by supplying self-help materials from supply stocks located in the construction battalions. This action would shift the burden from the depot to the construction battalions and problems such as additional personnel and equipment in the S-4 sections must be resolved in order to support such a plan effectively. A primary additional equipment requirement will be materials handling equipment (MHE). At the present time, the construction battalions are not authorized fork lifts. MTOE's have been submitted which include fork lifts; however, they have not been approved by the Department of Army at this time.

b. Maintenance: During this period the weather has been very hot and dry, resulting in extremely dusty operating conditions. These conditions, plus 20 hour per day operations placed a heavy work load on the maintenance organization. Lubrication intervals specified in lubrication orders are halved to minimize the adverse effects of heat and dust. The long operating hours require periodic preventive maintenance services to be performed more frequently, since they are based on miles driven or hours operated. Experience clearly shows that the key to good maintenance is operator maintenance supervised by knowledgeable leaders, e.g., Squad Leaders, Platoon Sgts and Platoon Leaders. This is strongly emphasized and the first hour of each 10 hour shift is a supervised maintenance period. To place continuing command emphasis on the maintenance program a weekly command maintenance letter, which discusses significant problem areas, command policy, and compares deadline rates, is published. To stress the important roles drivers and mechanics play and to motivate them to attain greater proficiency, each unit selects a Driver of the Month and Mechanic of The Month. From these, the Group selects a Group Driver and Mechanic of The Month. Winners receive a Letter of Commendation from the Group Commander and a three day pass to the in-country R&R center.

In early February, the Clark 290M tractor and CTL4, 18 cubic yard scraper replaced Caterpillar equipment. This equipment has proven to be satisfactory, however several problems have developed, such as leaking head gaskets, fuel lines breaking, turbocharger exhaust tubes breaking on all tractors and several engine failures. The prompt submission of Equipment Improvement Reports on all failures has been stressed, and improvements have been made.

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In February, a quarry and all equipment was transferred from RMK-BRJ to the Group. The equipment is non-standard and therefore repair parts support through the US Army supply system is not available. A few parts were obtained by purchase from RMK-BRJ, however the present repair parts support is not adequate. Resolution of this problem must be made by higher headquarters.

Construction battalions in the Group have an organic ordnance and engineer direct support maintenance capability and during the period received 830 items of equipment for repair. Only 65 of these were forwarded to the 185th Maintenance Battalion (DS), which provides back up support for units at Long Binh. The 2nd Maintenance Battalion (DS) provides all direct support maintenance for the ~~159th Engineer~~ Group unit at Vung Tau.

Repair parts support is provided by the direct support maintenance battalions. Repair parts supply continues to be a problem and has caused an average of 29 critical items to be deadlined 7 to 30 days; and an average of 15 critical items to be deadlined over 30 days each week.

The average deadline rate for critical items of equipment was 11.4% during the period, with an overall deadline rate of 5.4% for ordnance and engineer equipment.

#### 6. Force Development:

One force development innovation initiated this period was the consolidation of prefabrication operations within Battalions. Each Battalion has been tasked by the Group Commander with operating a Central Prefabrication Shop with a specified precut/prefab products such as latrines, showers, mess halls, or water towers. This means of control eliminated duplication and permitted each unit to concentrate its operation on one or two products. The output of each Battalion Shop is available to all units of the 159th Engineer Group.

#### 7. Command Management:

To provide closer control and a better understanding of significant engineering features of specific projects, Engineering Conferences were held this period by the Group Commander. These evening meetings are conducted with the Group Staff and the construction units (Battalions or separate Companies) concerned with the particular project to be discussed. Engineering solutions, possible trouble areas, design modifications, methods of production or construction, etc, are typical of topics discussed with the goal of more efficient and economic work. It is felt that these meetings are a useful tool to eliminate problems and to concentrate engineering knowledge on the elimination of specific obstacles to work progress.

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The use of Proconstruction Conferences on several large new projects was initiated by the Group Commander this period to allow for coordination and agreement between all interested parties. These conferences were used to define construction requirements and plans, schedule construction dates, establish coordination details between the constructing unit and the customer, and to give all interested parties an opportunity to present any particular problems or proposals. It is considered that these conferences are extremely helpful in preparing an organized and efficient project.

An additional command management tool has been the monthly publication at Group level of Engineering Notes - a compilation of observations, lessons learned; construction practices, new solutions to problems, expedient methods, etc, that are note worthy of dissemination and distribution to other units. These items are generally confined to strictly engineering problems and field solutions that have proven successful to one unit or section. By publication and distribution of these topics at monthly intervals, all units of the Group can profit by the experiences of other units.

Increased emphasis has also been placed on accurate accounting of unit (company size) Troop Disposition. The Daily Troop Disposition Sheets are furnished to the 159th Engineer Group S-3 who checks and records the management index known as "Productive Efficiency". This index reflects the percent of the total assigned and attached unit strength which are actually committed to assigned construction projects (not including maintenance, tool room keepers, supply or unit details). The 159th Engineer Group goal is 60 percent "Productive Efficiency" for all Construction Companies and 30 percent for A Companies. Credit is due to several companies which have exceeded these high goals on a continual basis.

Another command management tool employed by the Group Commander this period has been the introduction of a weekly Group Staff Statistical Briefing. The following chart titles indicate the pertinent statistics considered each week.

S-1: Personnel Status  
Tour Extensions  
R&R Utilization  
Rotation Profiles  
Graphic Strength Charts  
Replacements/Rotatees Percentages  
Savings Participation

SGM: Delinquency Reports  
Article 15's  
Courts Martials  
VD Rates

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S-3: Laterite Production  
Productive Efficiency of Units  
Penetration Production  
Asphalt Production  
Piles Driven  
Projects Completed  
Weather Factors

Maint: FLL/ASL: % Onhand, Authorized, and Excess  
Major Item Status: % Deadlined, % Equipment Days Lost  
Average Day Deadlined for Support Maintenance  
Average Days from Unit to Direct Support Maintenance

Supply: Status of Major Equipment: On Hand vs. Authorized  
Critical Material Shortages  
Crushed Rock Production  
Unit Mess Ratings  
Lumber Issued to Units

Safety: Vehicle Accident Rates  
Group Injury Rates  
Vehicle Accidents by Type

Analysis of the various trends indicated on the charts provides a current and concise view of the accomplishments, performances, and problem areas of the entire Group. When possible, contrasts between units are made to indicate relative factors.

The computer submittal for the Monthly Project Status Report presented fewer problems this period as units became familiar with the feeder information format, and several programming inaccuracies were corrected. Other improvements have been recommended by the 159th Engineer Group to increase the control and application for the automatic data processing (ADP) procedures. Among those are: a request for rapid return of the print out results to all units down to the lowest submitting unit to provide an opportunity to review the data compilation and to isolate any mistakes at the working level; a request for a provision within the computer program to handle submittals on multiple Battalion projects thereby eliminating a separate manual compilation at Group level. Stress was placed this period on accurate accounting for all expended hours of each reporting unit and on a continual refinement of Current Working Estimates (CWE) in each facility category. One problem in preparation of the report has been the rapid turnover of unit Operation Officers which frequently has resulted in individuals preparing the report without prior experience or training other than knowledge of the USAECV(P) Regulation 115-2.

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8. Inspector General:

Acting Inspectors General (AIG) have been appointed at Group and Battalion level for the purpose of receiving and processing complaints. During the report period only 3 complaints were received by the Group AIG, all others were resolved at battalion level. Of the 3 complaints received, 2 were forwarded to higher headquarters for consideration. During the reporting period the responsibility for the conduct of Annual General Inspections was delegated to the CG, USAECV(P) by CG, USARV. To date 3 separate Companies and one Detachment have been inspected. Other units are scheduled in the coming months.

9. Information:

Information activities of the 159th Engineer Group were primarily focused on the Laterite Lantern, the Group's newspaper. Home town news release submittals along with feature stories of construction activities were also emphasized. Many news stories, especially those concerning civic action work, have been published in the USAECV(P) Castle Courier along with Stars and Stripes and The Observer. The recent appointment of a full time Public Information Officer has greatly improved coverage of Group activities. Also, increased emphasis on photographic coverage of the 159th Engineer Group activities has been made during this period. The photographers are used for display, progress reporting, reconnaissance and news publication. A well trained and versatile photographer has proven to be a definite asset to the Group.

10. Civic Affairs:

Group participation in civic action in furthering the Revolutionary Development activities of the Republic of Vietnam has been restricted due to the heavy commitment of engineer effort to priority military construction. Because of the limitations of time and materials, and the low availability of equipment for this type work, units generally will only undertake those projects which may be accomplished in 4 to 8 hours with only one or two pieces of engineer equipment. This, however, has not limited some more ambitious long term projects such as schools and assistance to orphanages. The Vietnamese people are cooperative in the civic action work, and have been responsive in expressing their needs and appreciation.

The following are highlights of the civic action work this period:

- a. Joint American - Vietnamese construction of two culverts, seven leveling/grading projects, three road building tasks (about 2.0 km total), one pagoda, and one market place.

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- b. Sick call treatment of over 890 individuals.
- c. Distribution of over 100 pounds of clothing, 30 pounds of food, and 190 bars of soap.
- d. English classes taught to 30 adults and children.
- e. Voluntary contributions to orphanages and schools totaling 37,590 piasters.
- f. Support of the Revolutionary Development Indoctrination Camp at Vung Tau. Over 670 heavy equipment hours and 960 manhours were expended on this project.

The 159th Engineer Group has been the sponsor of the educational program conducted by the Central Training Institute for training Vietnamese in various construction and equipment operator skills. With a total enrollment of 212, the school has graduated 51 licensed light vehicle operators, 4 heavy equipment operators, and 19 dump truck operators. Current classes are training electricians, plumbers, masons, shoe repairmen, light vehicle mechanics, and operators of both light and heavy engineer equipment. It is expected that this program should be of tremendous future value to the Republic of Vietnam in providing skills necessary for large-scale construction operations.

Experience has shown that the best civic action work is that which helps the Vietnamese help themselves. One-way US assistance does little to contribute to support for the Vietnamese government and to instill pride in the people. Consequently, joint work projects are considered more valuable to the overall civic action objectives.

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Section 2, Part 1, Observations (Lessons Learned)

1. Personnel:

a. ITEM: Consolidation of in-processing facilities for Personnel reporting to Deploying Units.

DISCUSSION: Individual unit personnel sections of alerted units are having to process all assigned personnel through Installations Personnel and Administration Sections on an individual basis.

OBSERVATION: Unnecessary work is being performed by separate units that could be efficiently consolidated at the Installation level. Every Installation involved in unit activation should have a centralized in-processing point for all personnel assigned to alerted units on that installation. Matters such as deployability determination (physicals), allotments, wills, powers-of-attorney, etc, could be handled much quicker and more efficiently, and would relieve the unit of a tremendous burden during receipt of equipment, training, and POM.

b. ITEM: Improved Methods of Selection of Personnel for Assignment to Alerted Units.

DISCUSSION: A separate company (41st Engr Co (PC)) was subjected to an unusually large turnover of personnel during activation; training, and POM due to personnel being malassigned and/or non-deployable to SEA.

OBSERVATION: Prior to being selected for levy to an alerted unit, all personnel could be carefully screened to insure that each meets the requirements for overseas deployment. This would eliminate unnecessary PCS's occurring, only to have it subsequently discovered that an individual is not qualified for the assignment.

c. ITEM: Cadre Assignment Procedure for New Units Activated in CONUS.

DISCUSSION: A lack of organization in activation and training of new units resulted from not assigning key personnel to the unit prior to the arrival of newly assigned, inexperienced personnel.

OBSERVATION: Whenever possible a cadre should be assigned to precede the filler personnel by at least two weeks. An absolute requirement are experienced supply personnel.

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2. Operations:

a. ITEM: Verification of Hole Alignment on POL Tanks

DISCUSSION: While working on the erection of the Long Binh Tank complex, considerable difficulty was encountered in the roof assembly on the first 10,000 BEL Tank. The umbrella on the top of the center pole would not seat properly but rather was positioned at an angle with the horizontal. The pie shaped roof segments would then not fit into place except with extreme difficulty. Upon investigation it was discovered that the holes in several of the center vane plates of the umbrella were drilled incorrectly by the manufacturer, therefore causing an improper fit on the entire assembly.

OBSERVATION: It has now become unit SOP to check all holes and dimensions in the entire umbrella assembly. It is recommended that this check become standard procedure before attempting to assemble any POL storage tank.

b. ITEM: Plans Made Available for Cantonment Development for Newly-Arrived Units.

DISCUSSION: Effort can be saved by making correct drawings available to new units upon initiation of site development, i.e., perimeter fencing and bunkers.

OBSERVATION: Much unnecessary work can be eliminated and efficiency increased if correct plans were made available on items of site development that are to be standard throughout major installations.

c. ITEM: Pascoc Extension Kit.

DISCUSSION: In order to construct a 20 x 96 Pascoc Administration building an "extension kit" is required, as an extra interior column must replace two end walls not having columns.

OBSERVATION: This "extension kit" consists of a 4" x 4" column. Left over from this "extension kit" are (2) 20' joints and (2) complete door frames and doors. These can easily be placed at any column in the building to allow for a variation of partitioning.

d. ITEM: Electrical Wiring.

DISCUSSION: Materials to install electrical wiring have been a critical supply item. In the past the standard plans have utilized "open wiring, knobs, and tubes". This type of wiring is simple to install and requires a

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minimum supply of materials. The disadvantage to this system is the exposed wiring. Numerous units have spliced into the wiring to add extra lights and wall receptacles. The results has been many overloaded and unsafe circuits.

OBSERVATION: To prevent unauthorized persons from creating "Rube Goldberg" wiring circuits, more permanent wiring is being proposed. This wiring will utilize armored cable and, in some special cases, conduit. The requirement for installation of correct internal wiring will increase the supply problems and cost of materials to complete a building.

e. ITEM: POL Lines Constructed of Lightweight Tubing.

DISCUSSION: POL lightweight tubing is used for constructing tactical POL systems. Lightweight tubing is fabricated of light gage steel. Because of this it is never buried. Each 20-foot section of tubing has a seam running the entire length. It has been required to place this seam in an upward position so that leaks, caused by faulty fabrication or pressure in the lines, would be easily detected. Exceptions to this rule do exist: When lightweight tubing passes through a village, the position of the seam is reversed (seam down) thereby any leaks which may occur would not contaminate the populated area. This added safety precaution, through a village, unfortunately necessitates more work in detecting the exact location of the leak and repairing same.

OBSERVATION: Local conditions may dictate the position of the seam when using Lightweight Tubing.

f. ITEM: Asphalt Testing.

DISCUSSION: Quality control of a continuous production asphalt plant requires a complete testing program. One essential test necessary is the Marshall Stability Test. This test requires special equipment which is in short supply in Vietnam. Currently available test equipment is located in Saigon at the USAID Laboratory. At present it requires five to six days to obtain test results.

OBSERVATIONS: If quality control in the field is desired, each unit provided with the capability of producing asphalt should also have the necessary laboratory equipment and personnel to properly test the asphalt being produced in order to make timely on-the-spot corrections to the design mix. All asphalt units should be provided with Marshall Stability Testing Equipment.

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g. ITEM: POL Tank Foundations.

DISCUSSION: Experience in RVN shows that if firm ground (minimum of 1800 PSF) is available, a crushed rock pad 12" deep with a 6" sand cushion is better than a concrete ring with fill material for tank pads. The sand is normally impregnated with penecprime or some asphaltic cutback for stabilization. This procedure prevents the sand grains from getting into the tank gaskets and causing leaks in the tank.

OBSERVATION: During recent construction there were no cutbacks available to stabilize the sand. It was decided to cover the area with polyethelone prior to assembling the bottom of the tank. The polyethelene has proven very effective in keeping both the tank gaskets and bolt holes relatively free of sand and clogging.

3. Training and Organization:

ITEM: Utilization of Short Training Periods.

DISCUSSION: Due to the heavy requirement for construction effort only a minimum amount of time (2 hours per week) can be allocated to training. To keep individuals informed and knowledgeable in their duties, short lessons on the job site have proved valuable. These sessions are from five to fifteen minutes in length.

OBSERVATION: Short classes allow training on specific activities or subjects and can be keyed to immediate problems. This has many advantages when generalized classes are not possible. For example, preventive maintenance sessions during motor stables allow an individual to immediately apply a newly learned lesson.

4. Intelligence: NONE

5. Logistics:

a. ITEM: Shortages of TOE Equipment upon Departure from CONUS.

DISCUSSION: The 41st Engr Co (PC) departed CONUS short many critical end items of equipment. Much of this was supposed to be shipped to the in-country destination, but has never arrived. In particular, the lack of Navy cubes for a barge has delayed pile driving operations for three months.

OBSERVATION: Upon notification of a unit activation, supply action to requisition TOE equipment should be initiated at least 6 months prior to POSD. A team could be formed to receive equipment and deprocess it prior

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to the arrival of the unit personnel. In the case of the 41st Engr Co (FC) the Navy cube bargos (TOE Equipment) should be shipped as near as possible in assembled form to permit prompt assembly and usage upon arrival in Vietnam.

b. ITEM: Initial Issue of Publications for Newly Activated Units.

DISCUSSION: Upon activation of the 41st Engr Co (FC) was required to requisition each individual publication necessary for unit operation. Consequently, important AR's and TM's and even blank forms arrived long after unit activation. Some have never arrived. No priority was given due to a unit being alerted for deployment.

OBSERVATION: All newly activated units should be issued an initial complete issue of publications and units scheduled for deployment should be given priority on requisitions.

c. ITEM: Unit Deployment with Selected Items of Station Property (Foot Lockers).

DISCUSSION: Units deploying to SEA are facing a shortage of station property, the most critical being foot lockers. In order to store clothing and personal articles, individuals are having to purchase Vietnamese foot lockers which increases Piaster expenditure.

OBSERVATION: Units should be allowed to make maximum utilization of foot lockers in POM, allowing enough for subsequent individual issue upon arrival in-country.

6. Other:

a. ITEM: Removal of Transmission and Reduction Gear for the Bridge Erection Boat, Highway Products, Model H11-27B.

DISCUSSION: TM 5-1940-200-35 states that the engine must be removed in order to remove the transmission and reduction gear. This can be accomplished without removal of the engine assembly. DA Form 2028 is being prepared and will outline instruction on removal and installation of the transmission and reduction gear.

OBSERVATION: Eight to ten manhours can be saved by not having to remove the engine.

b. ITEM: Real Estate Acquisition.

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DISCUSSION: As more and more units arrive in Vietnam, real estate is becoming more critical. The time required to find the necessary real estate, obtain approval of the local authority, and process the paper through the proper channels requires a minimum of two months. This time can be greatly extended if the local authorities are opposed to the project.

OBSERVATION: It is very important that real estate requirements be made known as soon as possible. Then a series of meetings can be held with the local people concerned to explain the project. We have never been denied a request where ample time was provided to meet with the local authority.

c. ITEM: Base Development.

DISCUSSION: During the past three months many new units have arrived at Long Binh Post. The base development plan defined the necessary real estate required by these various units. Since the base development plan was initiated after many units had already constructed their cantonment areas, and had annexed more real estate than was authorized, it has become difficult to adjust unit boundaries and to locate additional areas for new units.

OBSERVATION: In the future a more systematic approach should be established in evolving a base development plan. First, a control system should be established before any construction is permitted. The control system should be adequate to provide for both vertical and horizontal control on all construction. Second, the base development plan should take advantage of terrain features to avoid excess construction effort.

Section 2, Part II, Recommendations: NONE

*R. E. Mc Connell*

R. E. MC CONNELL  
COL, CE  
Commanding

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AYCC-P&O (14 May 67)

1st Ind

CPT Hubbard/ccb/BH 404

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND  
VIETNAM (PROV), APO 96491 *81 MAY 1967*

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,  
APO 96307

1. The subject report, submitted by the 159th Engineer Group (Const), has been reviewed by this headquarters and is considered adequate.

2. The comments made by the submitting commander have been reviewed and this headquarters concurs, subject to the following added comments:

a. Section 1, paragraph 5a, page 18, Logistics and Supply. Upgrading of building standards above those of TM 5-302 created critical shortages in electrical, plumbing and special hardware store items.

b. Section 1, paragraph 5a, page 20, Penepriime. The need of penepriime as a dust palliative exceeded the supply. Experience factors have caused the input of penepriime and similar soil binder to be increased. Materials for this purpose should not continue to be a problem.

c. Section 1, paragraph 5b, pages 20 and 21, Repair Parts. Procedures are being worked out now by this headquarters and 1st Logistical Command on procurement of repair parts for non-standard equipment.

d. Section 1, paragraph 7, page 23, Command Management. Improvement in the return time of compiled data to the preparing units is needed.

(1) At present, machine availability is the limiting factor. Our priority for machine usage will improve now that our Data Automation Requirement has been approved by USARV.

(2) Each Group now receives one complete copy of the MPS & PR and six copies covering only that group's own area of responsibility.

(3) At present hand compilation at group level of the data from multiple battalion projects appears to be the only practical method of handling the situation.

e. Section 2, Part I, paragraph 2f, page 28, Asphalt Testing. This headquarters has taken action to obtain additional Marshall Stability Test equipment and to make it more readily available to asphalt units

FOR THE COMMANDER:

*Richard J. Ducote*  
RICHARD J. DUCOTE  
Colonel, CE  
Chief of Staff

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AVHGC-DST (14 May 67) 2d Ind  
SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-OT, **23 JUN 1967**  
APO 96556

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1967 from the 159th Engineer Group (Const), as indorsed.

2. Pertinent comments follow:

a. Reference item concerning logistics, page 18: Concur in Paragraph 2a, 1st Indorsement. The functional facilities requested for use in RVN were not designed to permit installation of ceiling fans, air conditioners and equipment which requires heavier wire and electrical hardware. Every effort is being exerted to obtain adequate stocks to meet demands, but the causes of the situation are quite clear. Similar situations in the future can be avoided by timely revision of bills of materials to support higher standards of construction.

b. Reference item concerning maintenance, pages 20 and 21: The Group's maintenance program is impressive and apparently effective. An overall deadline rate of 5.4% for ordnance and engineer equipment is good. The MACV reporting criteria for construction equipment is 20% and 10% for vehicles. Parts for non-standard RMK-BRJ equipment are being considered in the demobilization program.

c. Reference item concerning asphalt testing, page 28: Concur. Comments in paragraph 2e, 1st indorsement are considered adequate.

d. Reference item concerning shortages of TOE equipment upon departure from CONUS, page 29: It is desirable to ship units to Vietnam with complete TOE equipment. Unfilled POM requisitions should be followed up by the unit. This headquarters has requested the Engineer Command to provide POM requisition data of the 41st Engineer Company. Upon receipt of this information, USARV will follow up with USARPAC to determine the equipment status.

e. Reference item concerning unit deployment with selected items of station property (foot lockers), paragraph 5c: Existing regulations do not permit units to deploy overseas with station property. 1st Logistical Command has taken action to meet in-country foot locker requirements.

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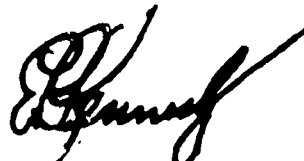
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SUBJECT: Operational Report-Lessons Learned for the Period Ending  
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Upon notice of the deployment of a unit to Vietnam, 1st Logistical Command will adjust requisitioning and stockage objectives to accomodate a deploying unit. Deployment with foot lockers is neither desired nor necessary.

f. Reference item concerning initial issue of publications for newly activated units, paragraph 5b: Nonconcur. The requirement to furnish publications and blank forms on activation date is the responsibility of the commander of the installation where the unit is to be activated (Para 82, AR 310-1). The regulation also requires that units deploying overseas have all official publications and a 30 day stock of required forms. The observations listed on page 30 are general in nature. They represent the many reports of publications supply problems brought to the attention of this headquarters. DA Directives are considered adequate. However, follow-up action has been taken to ensure that newly activated units deploying to RVN comply with publications supply procedures. Specific recommendations to improve the system were submitted by this headquarters to CONARC on 15 May 1967. A request was made that emphasis be placed on the CONUS installation commander's responsibility to assist newly activated TOE and TD units. These commander's are to ensure that pertinent pin-point distribution forms and requisitions are prepared in order to obtain an initial library of essential publications based on the units mission and TOE. It was urged that consideration be given to an expanded program of instruction at service schools, post, camp, and station schools which will aid materially in improving the unit publication supply system.

FOR THE COMMANDER:



E. L. KENNEDY  
CPT, AGC  
Asst Adjutant General

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GPOP-DT(14 May 67)

3d Ind

SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65), HQ 159th Engr Gp (Const)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 1 AUG 1967

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has reviewed subject report from Headquarters  
159th Engineer Group (Construction) and concurs in the report as  
indorsed, with the following comments:


a. Reference paragraph 2d, 2d Indorsement, item on POM requisition data. This headquarters initiates necessary action with CONUS supply agencies to expedite delivery of POM requisitioned items upon receipt of follow-up information from USARV.

b. Reference Section I, paragraph 5b, page 20, item on non-standard equipment. The criticality of the repair parts support problem is recognized by the headquarters and DA. Policies have been established for procuring parts. Believe a practical procedure of implementation, with emphasis on aggressive action by the using unit should alleviate the problem. Situation will be discussed with USARV.

c. Reference Section 2, Part I, paragraphs 2a thru g. USARV Engineer Command publishes a summation of lessons learned which are applicable to construction and operational support activities in Vietnam. A similar document is published by DA (Engineer notes). All of the above cited paragraphs appear to be candidates for these publications, with the exception of paragraph 2d. The cure for problem cited in paragraph 2d is command enforcement of fire regulations.

d. Reference Section 2, Part 1, paragraph 6c, page 31. Appropriate control measures exist within Base Development and Master Plans. The cited problem stems from the failure to complete both documents in sufficient time to use them for control of real estate allocation and minimization of construction effort.

FOR THE COMMANDER IN CHIEF:

  
H. SNYDER  
CPT, AGC  
Asst AG

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